

Serial No. 10/630,912**50014450-2 (1509-430)****Remarks**

Reconsideration and allowance of the subject application in view of the foregoing remarks and amendments is respectfully requested.

Claims 1-11 are pending.

Acknowledgement of Applicant's preliminary amendment filed on July 31, 2003 is noted.

Applicant notes that the drawings are deemed acceptable for examination purposes and is concurrently submitting a revised version of Figures 1 and 2 including Labels as requested by the Examiner.

Acknowledgement of Applicant's perfection of the claim to foreign priority is noted.

Claims 1-11 are directed to statutory subject matter

With respect to claims 1-11, Applicant respectfully submits that these claims are directed to statutory subject matter under 35 U.S.C. §101.

The statute states, in relevant part, "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor . . ." See 35 U.S.C. §101.

Claims 1-9 of the present application are directed to "[a] backup system for a database . . .," as recited in independent claim 1. The Applicant respectfully submits that each of claims 1-9 is directed to a system, which is included in at least the statutory definition of a "machine," and is therefore expressly included in one of the categories of statutory subject matter provided in 35 U.S.C. §101.

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Furthermore, the Applicants submit that the subject matter claimed in claims 1-9 does not fall within the judicially defined exceptions to patentable subject matter, i.e., laws of nature, natural phenomena, or abstract ideas. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).

With respect to the PTO's indication that claims 1-9 "[do] not produce a concrete, useful and tangible result," Applicants submit that independent claim 1 specifically recites generating and storing a new checkpoint. That is, a concrete, useful and tangible result is achieved when the claimed invention as a whole is considered. Claim 1 generates useful information in the field of backup systems and is not "merely directed to an 'abstract' idea" as asserted by the PTO. See page 3, section 6 of the present Official Action. For at least this reason, withdrawal of the rejection is respectfully requested.

Further, "a 'practical application' producing a concrete, useful and tangible result" is believed to be apparent from the generation and storage of a new checkpoint. As stated in the instant application, the present system "speed[s] up the process of generating the checkpoint and [does not] demand[] any of the processing or bandwidth capacity of the service execution platform 110." See instant specification at page 6, lines 29-31. For at least this reason, withdrawal of the rejection is respectfully requested.

Further still, Applicants respectfully submit that this rationale for claim rejections under 35 U.S.C. 101 appears to have been obviated by a recent precedential decision of the Board of Patent Appeals and Interferences ("BPAI"). In *Ex parte Lundgren*, the BPAI expressly rejected the "technological arts" test,

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holding that "there is currently no judicially recognized separate 'technological arts' test to determine patent eligible subject matter under § 101." See 2004 WL 3561262 (Bd.Pat.App & Interf. April 20, 2004), at *5. For at least each of these reasons, withdrawal of the rejection of claims 9-20, 36, and 37 is respectfully requested.

Claims 10-11 of the present application are directed to "[a] method of generating a checkpoint for a database . . .," as recited in independent claim 10. Applicant submits that each of claim 10-11 is directed to a method, which is included in at least the statutory definition of a "process," and is therefore expressly included in one of the categories of statutory subject matter provided in 35 U.S.C. §101.

Furthermore, the Applicants submit that the subject matter claimed in claims 1-9 does not fall within the judicially defined exceptions to patentable subject matter, i.e., laws of nature, natural phenomena, or abstract ideas. *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).

With respect to the PTO's indication that claims 10-11 "[do] not produce a concrete, useful and tangible result," Applicants submit that independent claim 10 specifically recites generating and storing a new checkpoint and is therefore expressly included in one of the categories of statutory subject matter provided in 35 U.S.C. §101 similar to claims 1-9 as described above. For at least this reason, withdrawal of the rejection is respectfully requested.

Based on the foregoing, claims 1-11 are directed to statutory subject matter and the rejection is respectfully requested to be withdrawn.

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Claims 1-11 are patentable over Cha et al. (U.S. Published Application 2003/0061537)

The rejection of claims 1-11 under 35 U.S.C. 102(e) as being anticipated by Cha is hereby traversed. A rejection based on 35 U.S.C. §102 requires every element of the claim to be included in the reference, either directly or inherently. Claims 1-11 are patentable over Cha for at least two reasons.

1. Cha fails to disclose generating a new checkpoint

The PTO asserts that Cha discloses generating a new checkpoint by merging the preceding checkpoint and at least one transaction log at page 6, column 1, paragraphs 128-131; however, the cited portion of Cha fails to disclose generation of a new checkpoint.

Cha at paragraphs 128-131 describe the following:

[0128] PROL can be used with parallel checkpointing, as shown in Algorithm 7. Each checkpointing thread flushes dirty pages located in its own checkpointing partition. To allow the execution of the user transactions during checkpointing, it is required to write undo log records of the ATT and active transaction list at that moment just before the transaction completes. And also, such undo logging is done for each transaction/log partition in parallel. It is assumed that such undo log records are stored on the same disk with the redo log file, but separately.

[0129] Algorithm 7. Parallel Checkpointing

[0130] 1. Create a begin_checkpoint record and append it to all the public log buffers.

[0131] 2. Choose the backup database that was the least recently checkpointed as the current backup database.

These paragraphs appear to describe undo logging of transactions in a redo log file. Further, paragraphs 130 and 131 appear to describe appending a

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record to an existing log buffer and choosing an existing backup database as a current backup database. There is no disclosure in Cha of generation of a new checkpoint. As stated in the specification at page 1, lines 7-8, a checkpoint "store[s] a separate copy of the contents of the database." Cha appears to support this understanding stating that checkpointing is "the process of making backup copies of the entire database from time to time." See Cha at page 2, paragraph 36. Applicants review of the cited portion of Cha fails to identify any teaching or disclosure of generation of a new checkpoint. For at least this reason, withdrawal of the rejection is respectfully requested.

2. Cha fails to disclose storing a new checkpoint

Further, the PTO asserts that Cha discloses storing a new checkpoint at Figure 1 and page 6, column 1, paragraphs 130-131; however, Cha fails to disclose, in the cited portions, storing a new checkpoint. Cha fails to disclose storing a new checkpoint generated by merging a preceding checkpoint and at least one transaction log.

FIG. 1 appears to depict a checkpoint manager which "partition[s] each backup copy into multiple backup disks;" however, the checkpoint manager is not described as generating the checkpoint by merging a preceding checkpoint and at least one transaction log. Paragraphs 130-131 have been addressed above with respect to the issue of teaching or disclosure of a checkpoint. These paragraphs do not disclose storing a new checkpoint and for at least this reason, withdrawal of the rejection is respectfully requested.

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Based on each of the foregoing reasons, claim 1 is patentable over Cha and withdrawal of the rejection is respectfully requested.

Claim 10 is patentable over Cha for at least the reasons advanced above with respect to claim 1 and withdrawal of the rejection is respectfully requested.

Claim 11 depends from claim 10, includes further limitations, and is patentable over Cha for at least the reasons advanced above with respect to claim 10. The rejection of claim 11 should be withdrawn.

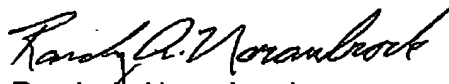
Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Annotated Sheet Showing Changes

